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Notice of References Cited

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U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US- -			
	B	US- -			
	C	US- -			
	D	US- -			
	E	US- -			
	F	US- -			
	G	US- -			
	H	US- -			
	I	US- -			
	J	US- -			
	K	US- -			
	L	US- -			
	M	US- -			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	- -				
	O	- -				
	P	- -				
	Q	- -				
	R	- -				
	S	- -				
	T	- -				

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NON-PATENT DOCUMENTS

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	U	Anonymous, "OpenVMS DCL Dictionary", October 1997, text download from: http://www.openvms.compaq.com:8000/ssb71/9996/9996p052.htm , download pages 5-10
	V	
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	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

OpenVMS System Management Utilities Reference Manual.

Format

SHOW CLUSTER

SHOW CPU

Displays the current state of the processors in an OpenVMS system.

Format

SHOW CPU [cpu-id[,...]]

PARAMETER

cpu-id[,...]

Specifies a decimal value representing the identity of a processor in a OpenVMS multiprocessing system. On a VAX 6000 system or an Alpha 7000 system, the CPU ID is the backplane slot number of the processor.

DESCRIPTION

The SHOW CPU command displays information about the status, characteristics, and capabilities of the processors active in and available to an OpenVMS multiprocessing or single-CPU system.

You identify the processors to be displayed by using either the /ACTIVE qualifier, the /ALL qualifier, a CPU ID, or list of CPU IDs. If you specify none of these, the SHOW CPU command uses the /ALL qualifier by default.

You identify the type of information to be displayed by using the /BRIEF, /FULL, and /SUMMARY qualifiers. If you specify none of these qualifiers, the SHOW CPU command assumes the /BRIEF qualifier by default. However, if you likewise do not identify a processor or processors as the object of a command, the SHOW

CPU command assumes a default of **SHOW/ALL/SUMMARY**.

The **SHOW CPU/FULL** command lists the current process on each configured processor without stopping other activity on the system. The current process may change while the data is displayed. As a result, there may be apparent inconsistencies in the display. For example, a process may be listed as the current process on more than one CPU.

QUALIFIERS

/ACTIVE

Selects as the subject of the display only those processors that are members of the system's active set.

/ALL

Selects all configured processors, active and inactive, as the subject of the display.

/BRIEF

Produces information from the summary display and also lists the current CPU state and current process (if any) for each processor in the configuration.

/FULL

Produces information from the summary display. The **/FULL** qualifier also lists the current CPU state, the current process (if any), the revision levels, and the capabilities for each configured processor. It indicates which processes can execute only on certain processors in the configuration. In addition, if one or more uniprocessing drivers are present in the system, the **/FULL** qualifier lists them by name.

The **SHOW CPU/FULL** command lists the current process on each configured processor without stopping other activity on the system. The current process may change while the data is displayed. As a result, there may be apparent inconsistencies in the display. For example, a process may be listed as the current process on more than one CPU.

/SUMMARY

Produces a display listing the processors in the OpenVMS multiprocessing or single-CPU system, indicating which is the primary processor, which processors are configured, and which processors are active. The **/SUMMARY** qualifier also indicates the minimum revision levels required for processors in the system, which OpenVMS synchronization image has been loaded into the operating system, and

whether multiprocessing is enabled. If the presence of one or more uniprocessing drivers in the system prohibits the enabling of multiprocessing, the SHOW CPU command displays a warning message.

Examples

#1

```
$ SHOW CPU
```

```
SOWHAT, A VAX 8800
Multiprocessing is ENABLED. Full checking synchronization image
loaded.
Minimum multiprocessing revision levels: CPU = 0 uCODE = 0 UWCS = 0.

PRIMARY CPU = 01
Active CPUs:      00 01
Configured CPUs:  00 01
```

The SHOW CPU command in this example produces a configuration summary of all configured processors in the VAX 8800 system SOWHAT. The primary processor is CPU 01, and all configured processors are active.

#2

```
$ SHOW CPU/BRIEF
```

```
SOWHAT, A VAX 8800
Multiprocessing is ENABLED. Full checking synchronization image
loaded.
Minimum multiprocessing revision levels: CPU = 0 uCODE = 0 UWCS = 0.

PRIMARY CPU = 01

CPU 00 is in RUN state
Current Process: AIREGIN          PID = 4A8001E5

CPU 01 is in RUN state
Current Process: ***None***
```

The SHOW CPU/BRIEF command in this example produces a configuration summary of the VAX 8800 system SOWHAT and also indicates that its two processors are in the RUN state. Only CPU 00 has a current process.

#3

```
$ SHOW CPU/FULL
```

```
COBRA7, a DEC 4000 Model 620
Multiprocessing is ENABLED. Streamlined synchronization image loaded.
Minimum multiprocessing revision levels: CPU = 1
System Page Size = 8192
System Revision Code =
System Serial Number =
Default CPU Capabilities:
```

```

      System:          QUORUM RUN
Default Process Capabilities:
      System:          QUORUM RUN
PRIMARY CPU = 00
CPU 00 is in RUN state
Current Process: *** None ***
Serial Number:  AY24870417
Revision:        A200
VAX floating point operations supported.
IEEE floating point operations and data types supported.
Processor is Primary Eligible.
PALCODE: Revision Code = 5.48
          PALcode Compatibility = 0
          Maximum Shared Processors = 2
          Memory Space:  Physical address = 00000000 00000000
                        Length = 0
          Scratch Space: Physical address = 00000000 00000000
                        Length = 0
Capabilities of this CPU:
      System:          PRIMARY QUORUM RUN
      User bitmask:    00000040
Processes which can only execute on this CPU:
      NETACP          PID = 0000008E  Reason: PRIMARY Capability
CPU 01 is in RUN state
Current Process: CPUSCHED          PID = 00000095
Serial Number:  AY24870406
Revision:        A200
VAX floating point operations supported.
IEEE floating point operations and data types supported.
PALCODE: Revision Code = 5.48
          PALcode Compatibility = 0
          Maximum Shared Processors = 2
          Memory Space:  Physical address = 00000000 00000000
                        Length = 0
          Scratch Space: Physical address = 00000000 00000000
                        Length = 0
Capabilities of this CPU:
      System:          QUORUM RUN
      User bitmask:    00000080
Processes which can only execute on this CPU:
      CPUSCHED        PID = 00000095  Reason: Affinitized to this CPU
                        Reason: User capabilities - 00000080

```

The SHOW CPU/FULL command in this example produces a configuration summary of the DEC 4000 Model 620 system COBRA7. Both processors are in the RUN state, but only CPU 1 has a current process (CPUSCHED). CPUSCHED runs on CPU 1 because it has affinity for that processor, and because only CPU 1 has process capability 8.

#4

```
$ SHOW CPU/FULL
```

```

OLEO, A VAX 6000-420
Multiprocessing is DISABLED. MULTIPROCESSING Sysgen parameter = 02
Minimum multiprocessing revision levels -- CPU: 0 uCODE: 0 UWCS: 21.
PRIMARY CPU = 02
*** Loaded unmodified device drivers prevent multiprocessor operation.***

```

RBDriver

```

CPU 02 is in RUN state
Current Process: Koko                      PID = 2A6001E3
Revision levels: CPU: 0 uCODE: 0 UWCS: 0.
Capabilities of this CPU:
    PRIMARY    VECTOR RUN
Processes which can only execute on this CPU:
    CONFIGURE      PID = 2A40010B  Reason = PRIMARY Capability
                                Reason = RUN Capability

CPU 07 is in INIT state
Current Process: *** None ***
Revision levels: CPU: 0 uCODE: 0 UWCS: 0.
Capabilities of this CPU:
    *** None ***
Processes which can only execute on this CPU:
    *** None ***

```

The SHOW CPU/FULL command in this example produces a configuration summary of the VAX 6000-420 system OLEO, indicating that only CPU 02, the primary CPU, is active and in the RUN state. It also shows that there is a uniprocessing driver loaded in the system, thus preventing the system from being enabled as a multiprocessor.

#5

```

$ SHOW CPU/FULL
CPU type: DEC 7000 Model 620
Multiprocessing is ENABLED. Full checking synchronization image
loaded.
Minimum multiprocessing revision levels: CPU = 1
System Page Size = 8192
System Revision Code =
System Serial Number = PROTO115
Default CPU Capabilities:
    QUORUM RUN
Default Process Capabilities:
    QUORUM RUN
PRIMARY CPU = 00
CPU 00 is in RUN state
Current Process: *** None ***
Serial Number: GROUCHO
Revision:
VAX floating point operations supported.
IEEE floating point operations and data types supported.
PALCODE: Revision Code = 5.37
    PALcode Compatibility = 2
    Maximum Shared Processors = 8
    Memory Space: Physical address = 00000000 00000000
                  Length = 16
    Scratch Space: Physical address = 00000000 00020000
                  Length = 16
Capabilities of this CPU:
    PRIMARY QUORUM RUN
Processes which can only execute on this CPU:
    CONFIGURE      PID = 00000104  Reason: PRIMARY Capability

CPU 01 is in RUN state
Current Process: VMSADU                      PID = 00000110

```

```
Serial Number: HARPO
Revision:
VAX floating point operations supported.
IEEE floating point operations and data types supported.
PALCODE: Revision Code = 5.37
          PALcode Compatibility = 2
          Maximum Shared Processors = 8
          Memory Space: Physical address = 00000000 00000000
                        Length = 16
          Scratch Space: Physical address = 00000000 00020000
                        Length = 16
Capabilities of this CPU:
          QUORUM RUN
Processes which can only execute on this CPU:
          *** None ***
```

The SHOW CPU/FULL command in this example produces a configuration summary of the Alpha 7000-620, showing both CPUs active and in the RUN state.

SHOW DEFAULT

Displays the current default device and directory.

Format

SHOW DEFAULT

DESCRIPTION

The SHOW DEFAULT command displays the current device and directory names, along with any equivalence strings.

The default disk and directory are established in the user authorization file (UAF). You can change these defaults during a terminal session or in a batch job by using the SET DEFAULT command, or by reassigning the logical name SYS\$DISK.

Examples

#1

```
$ SHOW DEFAULT
  DISK1: [ALAMO]
$ SET DEFAULT DISK5: [HIGGINS.SOURCES]
```